



IN THE CLAIMS

The following listing of the claims is provided in accordance with 37 C.F.R. §1.121.

- 1.-10. (canceled).
11. (currently amended) A multi-layer surface, the surface comprising:
a resin impregnated cellulosic first-substrate layer;
a conductive antenna printed on the resin impregnated cellulosic ~~a printed~~
~~conductive antenna on the first-substrate~~ layer; and
at least one additional layer overlying the antenna to form a laminate structure.
12. (original) The structure of claim 11, wherein the antenna is disposed on the layer of substrate by stenciling or screen printing.
13. (currently amended) The structure of claim 11, wherein the antenna is a single loop antenna including a single trace of conductive material disposed on the resin impregnated cellulosic layer ~~of substrate~~.
14. (currently amended) The structure of claim 11, wherein the antenna is a multiple-loop antenna including at least two parallel traces of conductive material disposed on the resin impregnated cellulosic layer ~~of substrate~~.
15. (currently amended) The structure of claim 11, wherein the resin impregnated cellulosic layer ~~of substrate~~ and the at least one additional layer ~~of substrate~~ form a high pressure decorative laminate.

16. (original) The structure of claim 15, wherein the decorative laminate is formed of at least one layer of phenolic impregnated cellulosic material and at least one layer of melamine impregnated cellulosic material.

17. (canceled).

18. (original) The structure of claim 11, wherein the antenna is configured for transmitting and receiving signals at a frequency of approximately 13.5 MHz.

19. (original) The structure of claim 11, wherein the antenna is configured for transmitting and receiving signals at a frequency of approximately 915 MHz.

20. (original) The structure of claim 11, further comprising a shield operative with the multi-layer surface to shield interference from or to the antenna.

21. (original) A multi-layer laminate structure comprising:
at least one phenolic impregnated layer of cellulosic material;
a decorative, melamine impregnated layer of cellulosic material disposed on the phenolic impregnated layer;
a protective, melamine impregnated layer of cellulosic material disposed on the decorative layer; and
a printed RF antenna formed at an interface between phenolic impregnated layers of the structure or between a phenolic impregnated layer and the decorative layer.

22. (original) The structure of claim 21, wherein the layers are laminated by applying a pressure to the layers under elevated temperatures to form a laminate.

23. (original) The structure of claim 22, wherein the laminate is a high pressure decorative laminate.

24. (original) The structure of claim 22, wherein the laminate is a low pressure decorative laminate.

25. (original) The structure of claim 21, wherein the antenna is configured for transmitting and receiving signals at a frequency of approximately 13.5 MHz.

26. (currently amended) A multi-layer shelf, comprising:
a shelf substrate;
a first laminate structure attached to a first surface of the shelf substrate, wherein the first laminate structure comprises a resin impregnated cellulosic [[first]] layer, a conductive antenna printed on the resin impregnated cellulosic [[first]] layer, and at least one additional layer bonded to the resin impregnated cellulosic [[first]] layer such that the antenna is covered.

27. (currently amended) The shelf of claim 26, further comprising a second laminate structure attached to an opposing surface of the shelf substrate, wherein the second laminate structure comprises a third layer, a conductive mesh, and a fourth layer bonded to the third layer such that the conductive mesh is between the third and fourth [[layer]]layers.

28. (original) The shelf of claim 27, wherein the conductive mesh forms a shield interference to or from the antenna.

29. (original) The shelf of claim 26, wherein the first laminate structure comprises at least one phenolic impregnated cellulosic layer and at least one melamine impregnated layer.

30. (original) The shelf of claim 26, wherein the antenna is configured to receive signals at a radio frequency.

31. (original) The shelf of claim 26, wherein the antenna is configured to receive signals at a frequency of approximately 13.5 MHz.

32. (original) The shelf of claim 26, wherein the antenna is configured to receive signals at a frequency of approximately 915 MHz.

33. (currently amended) A method for making a multi-layer structure, comprising:
disposing a fluid on a first layer to form a conductive antenna;
placing one or more ~~additional~~ resin impregnated cellulosic layers on the first layer such that the antenna is covered to form a stack; and
applying one or more of heat and pressure to the stack to bond the first layer and the one or more resin impregnated cellulosic layers.

34. (original) The method of claim 33, wherein the fluid is an ink and is disposed on the first layer via a printing process.

35. (currently amended) The method of claim 33, comprising curing the conductive antenna prior to placing the one or more ~~additional~~ resin impregnated cellulosic layers on the first layer.

36. (currently amended) The method of claim 33, wherein the first layer is a ~~and second layers are~~ phenolic impregnated cellulosic ~~[[layers]]~~ layer.

37. (currently amended) The method of claim 33, wherein the first layer is a phenolic impregnated layer and ~~the second layer~~ at least one of the resin impregnated cellulosic layers is a melamine impregnated layer.

38. (previously presented) The method of claim 33, wherein the antenna is printed by stenciling or screen printing.

39. (previously presented) The method of claim 33, wherein the antenna is printed with a silver-containing ink.

40. (previously presented) A method for making a laminate structure comprising:
printing a conductive antenna on a phenolic impregnated layer;
disposing at least a melamine impregnated layer on the phenolic impregnated layer;
and
applying one or more of heat and pressure to the layers to bond the layer to one another with the conductive antenna therebetween.

41. (previously presented) The method of claim 40, comprising disposing a second phenolic impregnated layer between the phenolic impregnated layer and the melamine impregnated layer such that the conductive antenna is disposed between the two phenolic impregnated layers.

42. (previously presented) The method of claim 40, wherein the conductive antenna is cured prior to disposing the melamine impregnated layer thereon.

43. (previously presented) The method of claim 40, wherein the layers form a high pressure decorative laminate following the application of elevated pressure and elevated temperature to the layers.

44. (previously presented) The method of claim 40, wherein the layers form a low pressure decorative laminate following the application of elevated pressure and elevated temperature to the layers.

45. (new) A method for making a multi-layer structure, comprising:
printing a conductive RF antenna on a substrate layer;
disposing the substrate layer between at least two additional layers, wherein at least one of the additional layers comprises a resin impregnated cellulosic layer;
and
applying pressure to the layers under elevated temperatures to form a laminate structure.

46. (new) The method of claim 45, wherein the substrate layer comprises a phenolic impregnated layer.

47. (new) The method of claim 45, wherein at least one of the additional layers comprises a phenolic impregnated layer.

48. (new) The method of claim 45, wherein the substrate layer comprises a melamine impregnated layer.

49. (new) The method of claim 45, wherein at least one of the additional layers comprises a melamine impregnated layer.

50. (new) The method of claim 45, comprising curing the conductive antenna prior to placing the one or more additional layers on the substrate layer.

51. (new) The method of claim 45, wherein the antenna is printed by stenciling or screen printing.

52. (new) The method of claim 45, wherein the laminate structure comprises at least one resin impregnated cellulosic layer and at least one melamine impregnated layer.

53. (new) The method of claim 45, wherein the layers form a low pressure decorative laminate following the application of elevated pressure and elevated temperature to the layers.

54. (new) The method of claim 45, wherein the layers form a high pressure decorative laminate following the application of elevated pressure and elevated temperature to the layers.